

INPLASY202580046  
doi: 10.37766/inplasy2025.8.0046  
Received: 14 August 2025  
Published: 14 August 2025

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**ADMINISTRATIVE INFORMATION**

**Support** - None.

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202580046

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 14 August 2025 and was last updated on 14 August 2025.

**INTRODUCTION**

**Review question / Objective** Many studies have explored the prognostic effect of prognostic nutritional index (PNI) in patients with multiple myeloma (MM), whereas the results were controversial. This study aimed to identify the accurate prognostic role of PNI in MM through meta-analysis.

**Condition being studied** The electronic databases of PubMed, Web of Science, Embase, Cochrane Library, and CNKI were thoroughly searched.

**METHODS**

**Participant or population** Patients with MM.

**Intervention** Studies investigated the association between PNI and survival outcomes of MM.

**Comparator** Patients with normal level of PNI.

**Study designs to be included** Cohort studies.

**Eligibility criteria** The inclusion criteria were as follows: (1) the diagnosis of MM was pathologically confirmed; (2) studies investigated the association between PNI and survival outcomes of MM; (3) the hazard ratios (HRs) and 95% confidence intervals (CIs) are provided or are calculable; (4) a cut-off value of PNI was identified; and (5) studies published in any language.

**Information sources** PubMed, Web of Science, Embase, Cochrane Library, and CNKI.

**Main outcome(s)** OS and PFS.

**Quality assessment / Risk of bias analysis** The Newcastle-Ottawa Quality Assessment Scale (NOS) was used to assess the quality of the included studies.

**Strategy of data synthesis** The combined HRs and 95%CIs were calculated to evaluate the prognostic value of PNI for OS and PFS in MM.

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**Subgroup analysis** Subgroup analyses were conducted.

**Sensitivity analysis** The stability and robustness of the results were assessed through a sensitivity analysis.

**Language restriction** No language restrictions were imposed.

**Country(ies) involved** China.

**Keywords** prognostic nutritional index; multiple myeloma; meta-analysis; prognosis; biomarker.

#### **Contributions of each author**

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